

Ring Body and Supporting Structure of Vibratile Gyroscope

Abstract

5 The invention is to provide a ring body and supporting structure of
vibratile gyroscope. The ring body is a thin sheet ring body having axial
height. The supporting structure is provided for supporting the ring body.
It is characterized that the supporting structure is arranged at two side ends
in axial direction of the ring body. The supporting structures provide axial
and radial supporting forces to restrain the major vibratile ring body, such
10 that it has better sensitivity and capability to resist environmental vibration
and noise. Additionally, a reinforcing structure surrounding the ring body
is arranged at the inner or outer wall of the ring body to raise the partial
rigidity of the ring body and maintain an elliptical resonance mode. If the
reinforcing structure is arranged as high as the ring body, then it is possible
15 to arrange electrodes at both inner and outer sides of the ring body to raise
the effective area of driving and/or sensing electrodes, such that its efficacy
is almost twice as large as that of traditional way that electrodes are
arranged at only one side. In the meantime, raising the effective sensing
area is further beneficial to reduce the needed driving voltage and increase
20 the signal-to-noise ratio.